

Listing of the Claims:

Claims 1-20 (Cancelled).

21. (Currently amended) A multiple channel system for a twisted pair telephone wire local loop system, comprising:

a subscriber gateway system having ~~an n-channel~~ a first transceiver ~~connected coupled~~ to the twisted pair telephone wire, the ~~n-channel first~~ first transceiver ~~sending to send and receiving receive via~~ multiple independent channels; ~~wherein the n-channel transceiver has a plurality of digital demodulators;~~

~~an n-channel~~ a second transceiver at a central office ~~connected coupled~~ to the twisted pair telephone wire, the second n-channel transceiver to send and receive via the sending and receiving multiple independent channels ~~wherein n is greater than two; and~~ a plurality of digital filters, operatively coupled to the first and second transceivers, to convey a signal via an available frequency band associated with the multiple independent channels; and

~~a local circuit switch connected to an output of the n-channel transceiver at the central office.~~

22. (Currently amended) ~~The system of claim 21~~ A multiple channel system as defined in claim 21, further comprising including a digital subscriber line access multiplexer ~~connected coupled to the an~~ output of the second transceiver n-channel receiver at the central office.

23. (Cancelled).

24. (Currently amended) ~~The system of claim 24~~ A multiple channel system as defined in claim 21, wherein each of the outputs of the plurality of digital filters has an output, and wherein each of the outputs is to be summed by a summer.

25. (Currently amended) ~~The system of claim 21, wherein the~~ A multiple channel system as defined in claim 21, further comprising a plurality of digital demodulators and a plurality of digital modulators are implemented in a digital signal processor coupled to the digital filters.

26. (Cancelled).

27. (Currently amended) A method of operating a bandwidth allocation system for a twisted pair telephone wire local loop system, comprising the steps of:

- (a) receiving a bandwidth allocation request at an office controller;
determining if a frequency band is available on a selected twisted pair telephone wire;
when the frequency band is available, determining a filter scheme and a frequency translation scheme to convey a signal via the available frequency band;
transmitting the filter scheme and the frequency translation scheme to a subscriber controller; and
sending a bandwidth allocation available message via the office controller.
- (b) selecting an unused section of frequency;
- (c) determining if the unused section of frequency has sufficient bandwidth;
- (d) when the unused section of frequency has sufficient bandwidth, performing a link quality analysis; and
- (e) when the link quality analysis meets a threshold is greater than a predetermined minimum, defining the unused section of frequency as available.

28. (Cancelled).

29. (Currently amended) A bandwidth allocation system for a twisted pair telephone wire local loop system, comprising:

a subscriber digital filter system ~~connected~~ coupled to the twisted pair telephone wire;

a subscriber controller to send a control signal to the subscriber digital filter system;

an office digital filter system ~~connected~~ coupled to the twisted pair telephone wire; and

an office controller ~~sending to send~~ a control signal to the office digital filter system, ~~wherein the office controller receives a bandwidth allocation request and calculates a digital filter coefficients necessary to realize a digital filter to satisfy the bandwidth allocation request to cause the digital filter system to convey a signal via an available frequency band.~~

30. (Cancelled).

31. (Cancelled).

32. (Previously presented) ~~The system of claim 29~~ A bandwidth allocation system as defined in claim 29, further comprising including a subscriber transceiver coupled to the subscriber controller and the subscriber filter system.

33. (New) A bandwidth allocation system as defined in claim 29, further comprising a splitter ~~connected~~ coupled to the twisted pair telephone wire and having a low pass output ~~connected~~ coupled to a plain old telephone system telephone and a high pass output ~~connected~~ coupled to the subscriber digital filter system.

34. (New) A bandwidth allocation system as defined in claim 29, wherein the office controller is to receive a bandwidth allocation request and to calculate digital coefficients used to program a digital filter to enable the bandwidth allocation request.

35. (New) A bandwidth allocation system as defined in claim 34, wherein the office controller is to transmit the digital filter coefficients to the office digital filter system.

36. (New) A bandwidth allocation system as defined in claim 34, further comprising a control channel to convey control information between the subscriber controller and the office controller.

37. (New) A bandwidth allocation system as defined in claim 36, wherein the office controller is to transmit the digital filter coefficients to the subscriber controller via the control channel.

38. (New) A multiple channel system as defined in claim 21, wherein the first transceiver in the subscriber gateway is to transmit a plurality of frequency division multiplexed signals.

39. (New) A multiple channel system as defined in claim 21, wherein the first transceiver in the subscriber gateway is to transmit a plurality of time division multiplexed signals.

40. (New) A multiple channel system as defined in claim 21, wherein the first transceiver in the subscriber gateway is to transmit a plurality of code division multiplexed signals.

41. (New) A multiple channel system as defined in claim 21, further comprising a local circuit switch coupled to an output of the second transceiver.

42. (New) A method as defined in claim 27, further comprising sending a bandwidth allocation available message via the office controller.